Contents of volume 47, 1998

Part 1

Scaling unobservable constructs in social science *D. J. Bartholomew* 1
Software reliability assessment using accelerated testing methods *W. K. Ehrlich, V. N. Nair, M. S. Alam, W. H. Chen and M. Engel* 15
Circuit optimization via sequential computer experiments: design of an output buffer *R. Aslett. R. J. Buck, S. G. Duvall, J. Sacks and W. J. Welch* 31
The binomial failure rate mixture model for common cause failure data from the nuclear industry *P. H. Kvam* 49
Locating genes involved in human diseases *R. N. Curnow, A. P. Morris and J. C. Whittaker* 63
Statistical inference for the effect of magnetic brain stimulation on a motoneurone *V. Ventura, A. C. Davison and S. J. Boniface* 77
Some aspects of the design and analysis of cluster randomization trials *A. Donner* 95
Bayesian graphical modelling: a case-study in monitoring health outcomes *D. J. Spiegelhalter* 115
Comparing accuracies of two screening tests in a two-phase study for dementia *X.-H. Zhou* 135
Analysis of the human sex ratio by using overdispersion models *J. K. Lindsey and P. M. E. Altham* 149
The offender group reconviction scale: a statistical reconviction score for use by probation officers *J. Copas and P. Marshall* 159

Part 2

Combining non-linear regressions that have unequal error variances and some parameters in common *D. C. Hamilton and O. Knop* 173
Nonparametric and non-linear models and data mining in time series: a case-study on the Canadian lynx data *T. C. Lin and M. Pourahmadi* 187
Grouped data exponentially weighted moving average control charts *S. H. Steiner* 203
Count data and treatment heterogeneity in 2×2 crossover trials *N. T. Longford* 217
Time series forecasting with neural networks: a comparative study using the airline data *J. Faraway and C. Chatfield* 231
The Muscatine children's obesity data reanalysed using pattern mixture models *A. Ekholm and C. Skinner* 251
Markov models of mite movements *M. S. Ridout, M. J. Faddy, G. Jones and C. A. M. Campbell* 265
Bayesian classification of Neolithic tools *P. Dellaportas* 279

Part 3

Model-based geostatistics (with discussion) *P. J. Diggle, J. A. Tawn and R. A. Moyeed* 299
Exact group comparisons using irregular longitudinal data *J. S. Maritz, C. J. Lombard and C. H. Morrell* 351
Confocal fluorescence microscopy of leaf cells: an application of Bayesian image analysis *M. Hurn* 361
Crossover designs in the presence of carry-over effects from two factors *S. M. Lewis and K. G. Russell* 379
Finite mixture models with concomitant information: assessing diagnostic criteria for diabetes *T. J. Thompson, P. J. Smith and J. P. Boyle* 393

Comparison of approaches for estimating the probability of coastal flooding
J. T. Bruun and J. A. Tawn 405
Analysis of longitudinal data with non-ignorable non-monotone missing values
A. B. Troxel, D. P. Harrington and S. R. Lipsitz 425
Nonparametric analysis of ordinal categorical response data with factorial structure
D. J. Best and J. C. W. Rayner 439

Letters to the Editors
Half-normal plots for unreplicated factorials *A. F. Bissell* 447
The importance of marginality rules *J. A. Nelder* 447

Part 4

Bayesian projection of the acquired immune deficiency syndrome epidemic (with discussion)
D. De Angelis, W. R. Gilks and N. E. Day 449
Mixed inverse problems arising in the estimation of calibration factors in positron emission tomography *Y. Pawitan* 499
Modelling the effect of subject-specific covariates in paired comparison studies with an application to university rankings *R. Dittrich, R. Hatzinger and W. Katzenbeisser* 511
Exact principal component influence measures applied to the analysis of spectroscopic data on rice *B. J. A. Mertens* 527
Sample selection in radiocarbon dating *J. A. Christen and C. E. Buck* 543
Spatial variation in risk of disease: a nonparametric binary regression approach
J. E. Kelsall and P. J. Diggle 559
Bayesian analysis of two-component mixture distributions applied to estimating malaria attributable fractions *P. Vounatsou, T. Smith and A. F. M. Smith* 575
Application of Markov chain Monte Carlo methods to modelling birth prevalence of Down syndrome *I. Bray and D. E. Wright* 589
A biomedical application of latent class models with random effects
A. Hadgu and Y. Qu 603
Index of authors 617
Corrigendum: Bayesian classification of Neolithic tools *P. Dellaportas* 620